

electric current was then suddenly reversed : the circulation exhibited no alteration. The stem was then exposed to the influence of each of the poles separately, from the base of the stem to the apex ; still no change in the circulation was visible. After each experiment all magnetic influence was suppressed, but no change in the rate of the motion became evident.

It was thus shown that the magnetic force, even when prodigious, exerts no influence on the circulation of *Chara*. Therefore there is no relation between the magnetic force and the vital force producing this circulation.

These experiments, with those of 1837, prove that the circulation is caused by a vital force, which is not electrical, since electricity merely acts like any other *exciting* cause, and which has no relation to the magnetic force, since the latter has not the slightest influence upon it.

It must be admitted therefore that the vital force is a force *sui generis*, of the nature, relations and mechanism of which we are totally ignorant.

These observations must necessarily change the opinion of those who consider the *vital force* as *something imaginary*.

At the same time it must be understood, that all the causes called *exciting* are *debilitating* or *sedative* in their *primitive* or *direct* effect, and only *strengthening*, *stimulant* or *tonic* in their *secondary* or *indirect* effect, by reason of the *vital reaction* which they occasion either instantaneously or after a short interval.—*Comptes Rendus*, April 15th, 1846.—A. H.

New species of Fossil Frogs.

M. Dunker has found some small bones of frogs in shell and coralline deposits of Hellern, not far from Osnabrück, which belong to the tertiary epoch. H. de Meyer, who has examined them, has found in them at least three new species, which may be distinguished particularly by the forms of the humerus. This same bone had already served that able palæontologist to establish twenty-four species of frogs found at Weisenau. Not one of the humeri discovered at Hellern is similar to those of these twenty-four species. The other bones, such as those of the sacrum, of the fore-arm and of the pelvis, appear to indicate more analogy between the species of these two localities.—*Leonhard und Bronn's Neues Jahrbuch*, 1845, p. 798.

Description of Fossil Foot-Prints. By ALFRED T. KING, M.D.

It is now more than a year since fossil foot-prints were discovered in the sandstone of the coal-measures in Westmoreland county, Pennsylvania. Since then, numerous localities have been observed, which contain well-characterized impressions. Some of these are similar to, and a few identical with, those which I first described, but by far the greatest number are totally different from any which have heretofore been observed.

About three miles from this town, near the summit of the first anticlinal roll, west of Chesnut ridge, one of the principal axes of